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Notes of a naturalist afloat—IV

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HISPANIOLA

The republics of Haiti and Santo Domingo are situated on an island remarkable for its beauty and fertility. In reporting its discovery to his sovereigns Columbus enthusiastically declared "la Isla Española es una maravilla." And indeed no fairer vision can be pictured than its high verdure-clad mountains rising abruptly out of the ocean, with here and there a stretch of sandy beach of dazzling whiteness fringed with palm trees, and with luxuriant mangrove thickets bordering its estuaries. Its beauties have been sung by more than one of its own dark-skinned poets; for though the bulk of its population is composed of unlettered negroes, it numbers among its better classes men who have received their education in France, among them several writers of beautiful French prose and verse. The father of France's greatest romance writer, Alexander Dumas, was a Haitian mulatto; and one has only to open the volumes of verse by Tertullien Guilbaud (*Feuilles au Vent*) and Alcibiade Fleury Battier (*Sous les Bambous*) to find charming poems, which breathe the soft tropical atmosphere of the beautiful island.

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The name Isla Española, which Columbus applied to the island, or rather its Latin equivalent, *Insula Hispaniola*, persisted for many years, usually in its abbreviated form, Hispaniola. Its principal city, the seat of the governor, was Santo Domingo on the southern shore of the island, and this city lent its name to the entire island, just as the Puerto Rico de San Juan gave its name to the island on which it is situated. The island was consequently called Santo Domingo, or by the French Saint Domingue, until after its independence, when *Hayti*, or *Haiti*, one of its ancient Carib names, was revived, the signification of which is "Highland." This name is now confined to the eastern republic, the language of which is Creole French, while the name Santo Domingo, or Republica Dominicana, is retained by the western republic, where Spanish is spoken.

The *Powhatan* came to anchor in Samana Bay, off the village of Santa Barbara, on February 19, 1881. This magnificent bay, situated at the northeastern corner of Santo Domingo, is a natural harbor large enough to shelter an entire fleet. At the time of our visit the *U. S. S. Despatch* was making a survey of its shores and reefs, and afterwards, during our war with Spain it was a convenient point for our transports and other vessels to assemble. It is protected from the ocean swell by a line of coral reefs with a passage at the northern end wide and deep enough for the largest vessels; and it is sheltered from the prevailing northeast winds by the peninsula of Samana, a continuation of the northern range of mountains which traverses the island from east to west.

As soon as we dropped anchor, I was sent with a large bag of mail to the *Despatch*, which was received with delight by her officers and crew, who had been weeks without news from home. They had been much hampered in their work by the continuous rains and were anxious to get

away. From the ship the island seemed one mass of verdure, which might well serve as a picture for illustrating the vegetation of the "moist tropical forests." The rain poured down in torrents throughout our entire stay, with only occasional glimpses of the sun. We could see the dark-skinned natives, most of them half dressed, with their little children, entirely naked, looking at us through the rain, from the doors of their thatched huts beneath the coconut palms which fringed the shore. We felt a certain envy of them, for our oilskins were hot and sticky, and we felt sure that if we should take up our residence on shore we would revert to the dress of our first parents, with perhaps the addition of a little coconut oil for our skin's sake. The commanding officer paid an official visit to the local authorities, which was promptly returned by the governor and his suite. The governor was a pleasant looking mulatto, but several of his companions were unprepossessing barefoot negroes. They stayed to luncheon with the captain, and I was called upon to act as interpreter. They appeared to be very friendly toward the United States but warned us against the Haitians, whom they pictured as savage brigands and haters of the Yankees. I was surprised to find that they spoke excellent Spanish, with but few idiomatic peculiarities, in striking contrast with the Haitians I afterwards met, whose Creole French is scarcely intelligible to a foreigner, though very pretty to listen to.

From one of the most intelligent of the governor's suite I learned that the shores of Samana Bay abounded in fine mahogany and other timber trees and that there was gold to be had in limited quantities on the peninsula of Samana itself; but that there was no organized industry for exploiting either mining or the exportation of lumber. Sugar was cultivated in the interior valleys, but lack of roads prevented its being brought to the coast.

Tobacco, corn, and a limited amount of cacao were also cultivated, but agriculture on an extensive scale could not be carried on for lack of laborers.

When I expressed my surprise at this and referred to the former prosperous condition of the colony, which was the first European settlement in America and at one time the pride of Spain, the colored man said: "Señor, it's all very well to talk of the former prosperity of Santo Domingo. It was prosperous only because the owners of mines and plantations had slaves whom they compelled to work for them. When the slaves were freed they naturally preferred to work for themselves instead of for the profit of others. You call the country people poor and ignorant, but most of them get a comfortable living from their little garden patches, and as they do not have relations with the outside world, they haven't much use for reading and writing. The roads are miserable; but when we try to get them repaired the country people declare that they don't feel called upon to wear themselves out building roads for carts and carriages while they themselves haven't even horses to ride. Almost the only way we can get anything done is to force our enlisted soldiers to work." When I went ashore the following day, I saw this man officiating as marker in a billiard room.

The village of Santa Barbara was not attractive. The natives seemed to care little for ornamental trees and shrubs. A horseback ride to the interior over a miserable muddy trail—it could not be called a road—revealed a few patches of maize, tobacco, and mandioca, the latter of two kinds: the sweet, which is eaten as a vegetable, and the bitter, which is poisonous until certain deleterious principles are removed, when it is made into a sort of cake or bread.

By the sides of the trail there were banks of ferns very similar to those I had seen in Porto Rico, together

with Piperaceae, Melastomaceae, red-flowered Cannas, bananas, and plantains, together with certain succulent gingerlike plants, which I afterwards found to be species of *Alpinia* and *Renealmia*, and the aromatic *Curcuma* from which the East Indian curry is made.

On one hillside plantation, composed principally of bananas and plantains, with a little tobacco, coffee, and cacao, we found a white man, who was eager for news of the outside world and begged for newspapers and magazines, no matter how old. A brood of little mulatto children were playing about his cottage, and he seemed very fond of them, but we did not see their mother. Among the fruit trees we noticed soursops, or guanábanas (*Annona muricata*), star-apples (*Chrysophyllum cainito*), mangos (*Mangifera indica*), and aguacates, or alligator pears (*Persea gratissima*); and for ornamental purposes there had been planted a few shrubs and small trees, such as the oleander (*Plumeria alba*) and the common flower fence (*Poinciana pulcherrima*). In a hedge we saw the physic nut (*Jatropha curcas*), the jobo plum (*Spondias lutea*), and the coraltree (*Erythrina corallodendron*), the limbs of which readily take root when stuck into the ground. Other hedge plants were lemons and limes, which are apt to form thickets if not kept in check.

The following day, protected from the wet by a raincoat, rubber boots, and an umbrella, I attempted to climb the ridge forming the backbone of Samana peninsula. My guide was a little colored boy, who seemed glad to answer my questions, but who, I afterwards thought, tried to make me lose my bearings. He guided me up the hillside along paths and through thickets of catclaws, across marshy places, and under giant trees clothed with epiphytes and hung with lianas, until we came to an opening in the woods, which proved to be

his home. In the center of a clearing was a hut made of bamboo and thatched with palm leaves, with the bare ground for a floor and with two rooms. The only utensils I saw were a few gourds, an iron kettle and one or two earthenware pots for cooking. There were also a table, a bench, and two chairs. Around the house there was a small garden in which I saw growing some inferior tomatoes, large purple eggplant, ochra, red peppers, and *Hibiscus sabdariffa*, with acidulous red calices eaten by the natives, sometimes called Jamaica sorrel. But to me the most interesting plant was a large-leaved arum resembling Polynesian taro, which proved to be a species of *Xanthosoma* or "Carib cabbage."

It began to rain in torrents and I went into the hut for shelter. The roof leaked in many places, although this fact did not seem to cause the inmates the least concern. The boy introduced me to his mother and grandmother, both of them fair-looking mulattoes with a certain dignity of manner. When the rain ceased I told my guide I was ready to return, but to my surprise he refused to accompany me back unless I should promise him a much larger fee than that which we had agreed upon. This I refused to do; whereupon, on taking my departure, the two women pointed to a road, which I was sure would take me toward the center of the island instead of to the shore of the bay; so I thanked them, and followed the path by which we had come, as nearly as I could remember. This led me through several marshes and swampy places. My hands and face were scratched by the sharp prickles of catclaws, and several times my progress was arrested by impenetrable thickets, but I finally arrived at the landing on the snow-white beach and reached the ship in time for dinner.

The interior of Santo Domingo remained comparatively unknown to botanists until the exploration of Baron Eggers, an account of which appeared in Peter-

mann's Mittheilungen, in 1888.* More recently extensive collections have been made by the Reverend Father Fuertes in the vicinity of Barahona, on the south coast, near the Haitian frontier, and by Baron von Tuerckheim in the vicinity of the interior village of Constanza and on its neighboring mountains, some of which (Pico del Valle and Monte Cucurucho) are as high as 2,500 meters. Among the interesting features of the interior are forests of pines and walnut and on the slopes of the mountains beautiful tree ferns. The higher altitudes have yielded many endemic species. Baron Eggers rediscovered the type of the genus *Fuchsia* (*F. triphylla*), and among the tree ferns collected by him on Monte Isabel de la Torre was one recently described by Wm. R. Maxon as *Cyathea crassa*. An interesting endemic climbing fern growing near Barahona is *Lygodium oligostachyum*. The collections of both Baron von Tuerckheim and Padre Fuertes are well represented in the United States National Herbarium.

My second visit to the island was in the summer of 1898, this time landing at Mole St. Nicolas, at the western extremity of the north coast. On this occasion we lay for a time off the island of Tortuga, where the early buccaneers and pirates had their stronghold. It happened that I carried with me a work written by one of them, a companion of Morgan at the time when he sacked the city of Panama. The work is entitled "Histoire des aventuriers flibustiers" and the name of the author Alexandre-Olivier Oexmelin. It gives a most interesting account of the *flibustiers* (a French corruption of the name freebooters); of their exploits by land and sea and their establishment on this island, with a description in the appendix of its natural history and of the methods pursued by the ancient Haitians as well as by the buc-

* A detailed account of Baron Eggers' exploration is given by Urban, *Symbolae Antillanae* 6: 280-291. 1909.

caneers in cultivating cacao, mandioca, and tobacco. It was through these outlaws that the French first gained a footing on the island of Hispaniola.

At Mole Saint Nicolas was the point where Columbus first set foot on the island of Hispaniola. The landing place at the time of our arrival must have been very much the same as it was at the time of the discovery, for there was no sign of a wharf and we were obliged to jump out of our boat and wade ashore. As one of our men-of-war had recently cut a telegraph cable leading from the Mole to the island of Cuba, we met with a cold reception at the hands of the Frenchman in charge of the cable station; and when we asked him for news he had nothing to tell us, although we afterwards learned that on the day preceding our arrival the Americans had landed without resistance on the island of Porto Rico.

As our stay was very short I had little opportunity to observe the vegetation of the eastern part of the island. I did, however, listen to some very pretty Creole French spoken by the colored wife of the Frenchman in charge of the cable station. I have since been able to supplement my botanical notes from a work by a Dominican friar, Père Nicolson, entitled *Essai sur l'histoire naturelle de Saint Domingue*, published in Paris in 1776; and from the *Flore des Antilles* by F. R. de Tussac, who lived on the island at the time of the terrible insurrection of the blacks. The former work was approved by the botanist Adanson, at that time *censeur royal*. It contains a list of 400 plants growing on the island. De Tussac's work is chiefly interesting from the account it gives, from a colonist's point of view, of the conditions of life on the island and the causes that led to the liberation of the blacks and their subsequent independence. In addition to these two works on Haiti I must mention Tuppenhauer's *Die Insel Haiti*, a magnificent quarto published in Leipzig in 1893. From these sources, supplemented

by an examination of material in the U. S. National Herbarium collected in the northeastern mountains of the island in 1905 by Messrs. G. V. Nash and N. Taylor of the New York Botanical Garden,* I have been able to make a rough sketch of the vegetation of Haiti.

The climatic conditions of the island are very similar to those of Cuba and Porto Rico, with a luxuriant vegetation on the northern and eastern slopes of the mountains, due to the moisture laden trade winds which blow the greater part of the year; and with xerophytic conditions on the southern and western sides of the island, like those of similarly situated leeward sides of Cuba, Porto Rico, and Panama, with their aromatic scrubby bushes, their Cactaceae, and aloelike agaves. Many species of plants growing in Haiti are widely spread in the West Indies, but on the peaks of the highest mountains, which are considerably higher than those of Porto Rico, the vegetation shows features more nearly akin to the temperate mainland; and as these peaks are isolated it is not surprising that species are found which are endemic or peculiar to the island.

The common strand plants are for the most part the same as those of the Bahama Islands and the Florida Keys. The goats-foot convolvulus (*Ipomoea pes-caprae*) is here called patate bord-de-mer (seaside sweet potato), and *Canavalia obtusifolia* pois-cabrit (goat pea), because goats are very fond of its succulent leaves; while the hard, polished seeds of *Guilandina crista* (*Caesalpinia bonducella*) are called caniques or queniques. The seaside plum, *Ximenia americana*, is commonly known as prunier épineux and *Chrysobalanus icaco* as icaquier or zicaquier. In places there are impassable thickets of a thorny scrambling plant, *Pisonia aculeata*, called croc-chien (dog tooth) on account of its recurved prickles. *Pari-*

* See Jour. N. Y. Bot. Garden 6: 170-191. 1905.

tium tiliaceum, the "hau" of the Hawaiians, is here called mahot, or mahot-franc to distinguish it from other mahots; and the name bois grisgris is applied to *Bucida buceros*. Belonging to the Bombacaceae is the *Ceiba pentandra*, here called fromager, the flowers of which are distinguished from those of the other genera of the same family by the possession of only 5 stamens. The young trees are studded with stout thorns and the old ones often have a swollen trunk very different in appearance from the common form seen in the Philippines, yet not held by botanists to be specifically distinct from it. The floss-like down which fills its pods is known in Haiti as coton-siffleux. Related to this tree is *Ochroma lagopus*, which has large 3-lobed instead of palmately 5-compound leaves as in *Ceiba pentandra*, and its flowers have many stamens in clusters. The wood of this tree, which is very light, is known as bois-liège (cork wood) and is used for making rafts and floats for fishing nets.

The mangrove formation at the mouths of streams and the muddy shores of estuaries is composed chiefly of the common species of the West Indies, here called mangliers or palétuviers. The name mangle-chandelle (candle mangrove) is applied to *Rhizophora mangle* on account of its elongated fruit, though it is also called manglier rouge, or palétuvier rouge; the names manglier blanc and manglier gris are loosely applied to both *Laguncularia racemosa* and *Conocarpus erectus*, though the latter is also called manglier bouton, on account of its buttonlike cones; and *Avicennia nitida* is variously designated as manglier noir, palétuvier blanc, or manglier salé. These mangroves form an almost impenetrable thicket and are still more closely bound together by certain lianas, especially by the Apocynaceous liane mangle (*Echites biflora*), and a climbing Bignonia called liane crab (*Cydista acuinocialis*) from the stems of which the natives weave baskets and fishtraps. Other plants of this formation

are the gombo mangle (*Pavonia racemosa*) with pale orange flowers, belonging to the Malvaceae; mangle oseille, or sorrel mangrove (*Dodonaea viscosa*); and *Coccoloba uvifera*, called raisinier du bord de la mer. The only ferns associated with these plants are *Acrostichum aureum* and *Blechnum serrulatum*.

The vegetation of the arid plains is characterized by Cactaceae, agaves, Bromeliaceae, and Mimosaceae. Among the opuntias, called raquettes by the Haitians, are *Opuntia haitiensis* Britton, a very spiny plant allied to *Opuntia ferox*, collected by Nash and Taylor near Gonaïves, with trunks 3 or 4 meters high, with spines sometimes 12 cm. long, and yellow flowers; and *Opuntia tuna*, with edible fruit. Among the Nopaleas, with rose-colored flowers, are *Nopalea coccinellifera*, the host of the cochineal insect, and *Nopalea moniliformis*. Among the columnar cacti are *Pilocereus Schlumbergeri* Weber and *Cephalocereus polygonus* (Lam.). In addition to these are the leaf-bearing *Pereskia aculeata*, with edible fruits called groseilles, or "gooseberries," and a *Melocactus* called tête d'Anglais (Englishman's head).

In calcareous formations grow species of *Amyris*, called bois de chandelle or candlewood, *Morinda citrifolia*, calabash trees (*Crescentia cujete*), *Pedilanthus tithymaloides*, which is a Euphorbiaceous plant with caustic milky latex, species of *Condalia* and *Bumelia*, the leafless threadlike *Cassytha americana*, species of *Phyllanthus* (en-bas-feuilles) with leaves that sleep, pinnate-leaved acacias called tendre-à-caillou and gras-de-galle; palmetto palms (*Thrinax* spp.); and among the ferns *Aneimia adiantifolia*, *Asplenium dentatum*, and species of *Cheilanthes*. *Bromelia pinguin* is used for hedges together with species of agave and yucca; and the true aloes of Europe, *Aloe vulgaris*, has established itself in many places.

On the margins of ponds and in marshy places farther inland than the common mangroves occurs the alligator

apple (*Annona glabra*), here called bois flot from the lightness of the wood of its roots. Its smooth applelike fruit is not edible, while that of the prickly *Annona muricata*, here called corosol, has an ill-scented skin but pleasantly acidulous edible pulp. Closely related to the latter, but with shorter prickles, larger and lighter-colored seeds, and inedible pulp, is the wild *Annona montana*, or corosol montagne. Other related species sometimes known as custard apples are *Annona squamosa*, here called pomme cannelle, or cinnamon apple; *Annona reticulata*, called cachiman coeur-de-boeuf, or bullock's heart, and *Rollinia mucosa*, called cachiman crème. The latter species was described by de Tussac as *Annona obtusiflora*, from a specimen cultivated by a French colonist living near the western end of the island.

One of the most important fruits of the island is *Mamea americana*, here called abricot, on account of the orange-colored pulp of its fruit. Another is *Chrysophyllum cainito*, known as caimitier, belonging to the sapote family. Allied to this is the sapotillier (*Achras sapota*) and the sapote, sometimes called marmelade or jaune d'oeuf (*Lucuma mammosa*), remarkable for its peculiar large polished seed. In addition to the endemic fruits are the introduced breadfruit, mango, oranges, lemons, limes, bananas, plantains, rose apple (*Eugenia jambos*), the monbin de Tahiti (*Spondias dulcis*), and Spanish plum (*Spondias purpurea*), related to the native monbin (*Spondias lutea*), which together with bois-immortel (*Erythrina corallodendron*) is often seen growing in hedges or living fences along the sides of the road. Erythrinæ are also used for shade on coffee and cacao plantations, together with the quickly growing Ingas. The latter are called pois-doux by the natives on account of the soft white sugary pulp contained in the thick pods. *Genipa americana* yields a violet dye sometimes used for ink, but its color is not permanent. *Hura crepitans*,

called sablier or sandbox, is often seen near the villages; and another Euphorbiaceous tree, described and figured by Père Nicolson as "noisettier" (loc. cit. 276. pl. 2) I have identified as the candle nut of Polynesia, *Aleurites triloba*, the beloved *kukui* of the Hawaiians, who eat its oily kernels together with certain seaweeds as a relish at their feasts. Among the Myrtaceae are the common guava (*Psidium guajava*), from which excellent jelly is made; *Amomis caryophyllata* (*Pimenta acris*), the source of bay rum, here called bois d'Inde; the introduced pomme de Tahiti (*Eugenia malaccensis*); and the giroflier, or cloves tree (*Eugenia aromatica*) from the Malay Archipelago, which is occasionally cultivated.

In the gardens of the country people many of the same vegetables are cultivated as in Porto Rico and Cuba. The indigenous ones have lost their Carib names but have been given pretty Creole names instead, and there are many introduced species. Tomatoes are called amourettes, the spiny *Solanum aculeatissimum* amourettes bâtarde; peanuts (*Arachis hypogaea*) are called pistaches, the introduced eggplant (*Solanum melongenum*) aubergine or bringène (a corruption of the Spanish berenjena). In addition to the common African gombo (*Abelmoschus esculentus*) a closely allied species called ambrette (*Abelmoschus moschatus*), with seeds tasting exactly like musk, has been introduced. *Cajanus indicus* is known as pois de Congo, a name which indicates its origin; and introduced yams of several kinds are known as ignames. Several species of *Amaranthus* together with other pot herbs are known by the general name of calalou. Red peppers (*Capsicum annuum* and *Capsicum frutescens*) are called piment. Several forms of them occur, one of which, with small hot pods, is appropriately known as petit piment enragé. The introduced turmeric plant (*Curcuma longa*) is called saffron, and the endemic *Bixa orellana* roucou. Among the ornamental

plants are *Poinciana pulcherrima*, here called fleur de paradis; *Plumeria alba* and *Plumeria rubra*, called franchipannier; the fragrant henna of the Egyptians (*Lawsonia inermis*), called réséda; the yellow-flowered *Allamanda cathartica*, called liane à lait, from its milky latex; and the common oleander is known as laurier rose.

Several roadside weeds with burlike fruits belonging to the Malvaceae and Tiliaceae (*Urena* and *Triumfetta* spp.) are known as grands cousins, cousins petits, or mahot-cousins; and the leafless parasitic dodder (*Cuscuta americana*) as herbe-z'amitié (friendship herb).

Among the medicinal plants *Dianthera pectoralis*, called herbe à charpentier, is highly esteemed. Other plants used medicinally are *Piper peltatum*, called herbe à colet or queue de lézard, used in the form of cold infusions as a diuretic; *Cassia alata*, called herbe à darts, used for parasitic skin diseases; and several species of *Adiantum*, called capillaire.

The forests of the island abound in fine timber trees, the most valuable of which is perhaps the mahogany, locally known as acajou, or acajou-à-planches (*Swietenia mahagoni*) to distinguish it from the fruit-bearing acajou-à-pommes (*Anacardium occidentale*) which is not in the least related to it. The name of the latter should in all probability be cajou, instead of acajou, derived from the same aboriginal names as cashew and cajuil, applied to the species in Jamaica and Porto Rico. The mahogany of Santo Domingo, often called Spanish mahogany, is prized above all others for its beautifully figured grain. *Cedrela odorata*, the fragrant wood of which cigar boxes are made, is also called acajou, or acajou senti, and is of the same family as the mahogany. Both are large trees with pinnately compound leaves, clusters of inconspicuous flowers, and fruit dehiscing into 5 valves. *Lignum vitae* (*Guaiacum officinale*), called gayac, or gaillard franc by the Creoles and malira by the primitive Caribs, is the

source of the hardwood used for sheaves of pulleys, cog-wheels, etc., derived only from the heartwood of the tree. Gaillard bâtarde, or gayac bâtarde, mentioned by Père Nicolson, is probably *Guaiacum sanctum*. Both trees are found on the "mornes" of the island. Santo Domingo "ebony" is the wood of the leguminous tree *Brya ebenus*, also called green ebony. It takes a fine polish and is highly prized for inlaying and for making flutes. The so-called French oak of the island is *Catalpa longisiliqua*, a tree belonging to the *Bignonia* family. Other fine timber trees of this family, called chênes (oaks) by the French and encinos or robles by the Spaniards, belong to the genus *Tecoma* or *Tabebuia*. Box wood and white-wood are names applied to *Tecoma leucoxylon*, and the latter name also to *Tecoma pentaphylla*, which in the French Antilles is known as the poirier, or native pear tree.*

In the forests, climbing over the highest trees to seek the light and scrambling over hedges and roadside bushes, are numerous lianas, some of them remarkable for the beauty of their flowers and some for their medicinal virtues. Père Nicolson gives a long list of them, but the plants to which he refers cannot all be identified. Species of smilax, called zarzaparilla in Mexico, are known in Jamaica as lianes bambouches; the false zarzaparilla, or liane bambouche bâtarde, is *Cocculus dominicensis*, while *Cisampelos pareira* is called liane amère, or "bitter-vine." *Tragia volubilis*, which has its tender young branches and leaves clothed with stinging hairs, is called liane brûlante; *Hecastophyllum monetaria*, of which barrel hoops are made, is called liane à barrique; the well-known snuffbox seabean *Entada scandens* is called liane coeur-de-Saint-Thomas, and the oxeye sea-

* These names are taken from the *Flora Phanerogamique des Antilles françaises*, by the Rev. Père Duss. *Annales de l'Institut Colonial*, vol. 3. Macon, 1897.

bean (*Mucuna urens*) yeux de bourrique or liane à cacone. The names liane à caleçon and liane fer-à-cheval are applied to species of *Aristolochia* and of *Passiflora*, with 2-lobed leaves shaped more or less like a pair of trousers or like a horseshoe; while *Aristolochia anguicida* is called liane à corbillon, because its seed pods resemble miniature baskets. The well-known antidote cacoon of Jamaica (*Feuillea cordifolia*) is called in Haiti liane boîte à savonnette, on account of its fruit, which is like a spherical box filled with irregular flattened disklike seeds more or less resembling small cakes of soap, and on account of its real or supposed medicinal qualities it is also called liane à contre-poison, or in Spanish *bejuco de contrayerba*. A certain vine of the forest, yielding draughts of clear water to the thirsty hunter (probably a species of *Cissus* or *Vitis*), is called liane-à-eau or lianes-des-chasseurs. An *Ipomoea* resembling the jalap of Mexico (probably *I. tuberosa*) is known as liane à médecine or liane purgative. Other species of *Ipomoea* are called lianes à tonnelle or lianes à berceau (cradle vines); while species of *Paullinia* are called lianes à scie (saw vines) from their peculiar stems, or lianes à persil (parsley vines) from their pretty compound leaves; and the plant which produces the little black-and-red seeds known as crab's eyes (*Abrus precatorius*) is known as liane à réglisse. The passion flowers are called pomme-liane. This name is especially applied to *Passiflora laurifolia*, while *Passiflora maliformis* and *P. ser-rata* are called pomme-liane à agouti, and the large-fruited *P. quadrangularis* is called barbadine. Another name for the fruits of the passion flowers is grenadille, the diminutive of grenade, given it because of the many seeds enclosed by the outer shell, as in the case of the pomegranate.

In the United States National Herbarium there are a number of ferns collected in the mountains of Haiti

by Nash and Taylor, on the expedition to which I have already referred. From the Corail region, west of Port Margot, they brought back *Ceropteris calomelaena*, *Goniophlebium chnoodes*, *Phlebodium aureum*, *Meniscium reticulatum*, *Dryopteris serra*, *Diplazium Urbani*, and species of epiphytal filmy ferns of the genus *Trichomanes*. Between Port Margot and Pilate they collected *Asplenium rhizophorum*, *Asplenium rectangulare*, *Adiantum cristatum*, *Trichomanes scandens*, *Polypodium elongatum*, and species of brackenlike *Pteridium* and *Dicranopteris*. Near the mountain village of Marmelade, at an elevation of 2,750 feet, they collected *Dryopteris sancta*, *Dryopteris tetragona*, *Dryopteris reptans*, *Paltonium lanceolatum*, *Campyloneurum angustifolium*, and *Asplenium erosum*; and in a beautiful ravine, an hour's ride from Marmelade, down the perpendicular sides of which cascades were dashing, they collected *Campyloneurum cubense*, *Tectaria heracleifolia*, *Asplenium formosum*, *Eschatogramme furcata*, and the widely spread *Adiantum tenerum*, called capillaire by the natives. On Mount Balande, near Gonaïves, they found *Xiphopteris serrulata*. In the vicinity of Gonaïves, which is a dry xerophytic region, there were few ferns, except species of *Cheilanthes*. On the return trip to Bayeux, from which they had started, they collected a tree fern (*Cyathea Tussacii*), *Alsophila quadripinnata*, and *Struthiopteris polypodioides*.

It is not the province of the present paper to repeat the tragic history of this island: the extermination of the aboriginal Indians by the Spaniards, who enslaved them and forced them to work in mines and plantations beyond their endurance; the introduction of thousands of slaves from Africa (Columbus' own son was the first African slave owner on the island); the uprising of the blacks and the massacre of their masters; the emancipation of the slaves and their enfranchisement before they were at all fitted for self government; the incapacity

and selfish greed of the men they chose to be their presidents, many of whom were cruel tyrants, who violated the constitution, caused themselves to be crowned king or "emperor" and imitated the ceremonial pomp of European royalty. Few of the leaders of the black islanders seem to understand the principles of republicanism or to have the welfare or progress of the people at heart. Many of the schools of the island are now closed for lack of pupils, and it may be largely owing to lack of education that the practise of sorcery or voodooism, very similar to that of our own southern negroes, persists.

Much good land susceptible of cultivation now lies idle for want of laborers. In nearly every case where plantations are worked successfully the labor is performed by miserably paid soldiers under the supervision of their petty officers, hired out to the planters like gangs of convicts. This is especially the case on the farms of government officials. To avoid conscription the men of the lower classes keep away from the towns, remaining in the mountains at a safe distance and sending their wives to town to do necessary errands. Who can blame them for preferring the freedom of their homes, where the generous soil yields them a just return for their daily work, to the constraint of forced labor for the profit of others? In spite of these conditions there is generous hospitality and a certain light-hearted gaiety still among the black people, and one may frequently hear the drumming of the African bambola, calling them together for their dances, as in certain parts of Louisiana.

The problems which the leaders of the Haitian Republic have to solve are not simple. It is to be hoped that the reins of government will be placed in the hands of rulers, not only intelligent and well educated, but just and humane, alive to their responsibility and inspired with a love for their fellow countrymen. What the future of the island will be, time only can tell.